

APRIL/MAY 2024

**CSC21/FSC21 — C++ AND  
DATASTRUCTURES**

Time : Three hours

Maximum : 75 marks



**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. What is object?
2. What do you mean by friend functions?
3. Define Virtual function.
4. Write the functions for manipulations of file pointers.
5. What is stack?
6. Define Circular queue.
7. List out the operations of linked list.
8. Define Binary tree.
9. When is a graph said to be weakly connected?
10. Define Heap Sort.



SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) State the difference between procedure oriented and object oriented programming.

Or

- (b) Explain inline function with an example.

12. (a) Classify the file operation in detail.

Or

- (b) Discuss the Abstract classes.

13. (a) Write the detail note on classification of data structures.

Or

- (b) Explain the array representation of queue.

14. (a) Discuss Circular linked list.

Or

- (b) Explain in detail about Traversing a Binary Tree.

15. (a) Explain the Bubble Sort.

Or

- (b) How do you represent Graph? Explain.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the basic concepts of Object oriented programming.

17. Explain the multilevel inheritance with suitable example.

18. Discuss the array representation of Stack.

19. Explain Doubly Linked List.

20. How do you find the Shortest Path Algorithm? Explain.